

1 **REMARKS**

2 Claims 4 and 8-20 are amended. Claims 1-20 remain in the application for
3 consideration. In view of the following remarks, Applicant respectfully requests
4 that the application be forwarded on to issuance.

5
6 **Examiner Communication**

7 Applicant and the Examiner conducted a teleconference on April, 3 2006.
8 During the teleconference, Applicant and Examiner discussed the references cited by
9 the Office and the Office's position with respect to the subject claims. Examiner
10 agreed to re-consider Applicant's position by reviewing Applicant's substantive
11 argument in this response. In addition, Examiner offered some valuable suggestions
12 regarding potential claim amendments that will receive favorable treatment by the
13 Office with respect to the §112 and §101 rejections.

14
15 **§112, Second Paragraph, Rejection**

16 Claim 4 stands rejected under 35 U.S.C. §112, Second Paragraph, as
17 allegedly being indefinite. Specifically, the Office argues that there is insufficient
18 antecedent basis for the limitation "the encoded region of media content".

19 Applicant has amended this claim appropriately. Accordingly, Applicant
20 respectfully requests that this rejection be withdrawn.

21
22 **§ 101 Rejections**

23 Claim 1 stands rejected under 35 U.S.C. § 101 as allegedly reciting "the
24 mere manipulation of data or an abstract idea, or merely solving a mathematical
25 problem without a limitation to a practical application." As such, the Office

1 concludes that “claim 1 merely manipulates data without ever producing a useful,
2 concrete and tangible result.” The Office then makes some general suggestions to
3 remedy this rejection. In addition, the Office advises Applicant “to provide a
4 written explanation of how and why the claimed invention (either as currently
5 recited or as amended) produces a useful, concrete and tangible result.”

6 Applicant respectfully disagrees with the Office’s argument and traverses
7 this rejection. First, Applicant submits that the claim 1 and the specification
8 describe tangible results. In this regard, the Office is directed to the subject matter
9 recited in claim 1 itself. Specifically, claim 1 recites a method that includes
10 “subtracting the second quantity of residual samples ...to generate a final
11 representation...” In addition, and by way of example and not limitation, the
12 Office is also directed to page 15 of the specification, which expressly describes
13 rendering received multimedia content for a user.

14 Second, with respect to the Office’s statement that “claim 1 merely
15 manipulates data without ever producing a useful, concrete and tangible result”,
16 Applicant submits that even if the subject matter of claim 1 did merely manipulate
17 data, which it does not (claim 1 recites “...to generate a final representation...”),
18 this alone would not be a sufficient basis to conclude that it did not produce a
19 useful, concrete and tangible result. (see the Federal Circuit Court’s holding in In
20 re Alappat (hereinafter “Alappat”) (33 F.3d 1526)).

21 Specifically, in Alappat, the Federal Circuit Court considered an
22 Examiner’s final rejection of an independent claim (and its depending claims)
23 which recited a mathematical algorithm. (Id. at 1539) In reversing the Board’s
24 Panel’s finding that the claim was directed to non-statutory subject matter, the
25 Court stated “[t]he fact that the four claimed means elements function to transform

1 one set of data to another through what may be viewed as a series of mathematical
2 calculations *does not alone justify a holding that the claim as a whole is directed*
3 *to nonstatutory subject matter.*" (Id. at 1545) (emphasis added). The Court also
4 clearly indicated that a claim is not unpatentable merely because it 'reads on a
5 general purpose digital computer 'means' to perform the various steps under
6 program control.'" (Id.) Instead, the court characterized the claim, as a whole, as
7 being directed to a "combination of interrelated elements" and "a specific machine
8 to produce a useful, concrete and tangible result." (Id.) Indeed, the Court
9 specifically held that the claim for a general purpose computer programmed with a
10 new mathematical algorithm stated patentable subject matter. (Id. at 1545).
11 According to the Court, new programming effectively creates a new machine
12 "because a general purpose computer in effect becomes a special purpose
13 computer once it is programmed to perform special functions pursuant to
14 instructions from program software." (Id.) Accordingly, in light of the Federal
15 Circuit's decision, the Office's reasoning is simply without basis.

16 Third, with respect to the Office's advise that Applicant "provide a written
17 explanation of how and why the claimed invention (either as currently recited or
18 as amended) produces a useful, concrete and tangible result", Applicant reminds
19 the Office that it has the burden of setting forth a *prima facie* case of
20 unpatentability. (see e.g. MPEP 2106 IV(C)). In view of the above discussion, the
21 Office has not met this burden because it has failed to show that claim 1 presents
22 non-statutory subject matter under § 101. Accordingly, for at least this reason,
23 Applicant does not bear the burden of providing such a written description.
24 Instead, Applicant directs the Office's attention to the language of claim 1 and the
25

1 language of the specification, which sufficiently show that claim 1 is directed to a
2 useful, concrete and tangible result.

3 Claims 8 and 10-14 stand rejected under 35 U.S.C. §101 because they
4 allegedly do not meet §101 requirements (the claims have improper language
5 regarding the storage medium).

6 Applicant respectfully disagrees with the Office's rejection. Nevertheless,
7 in the interest of advancing the prosecution of this matter, Applicant has amended
8 these claims. Accordingly, Applicant respectfully requests that these rejections be
9 withdrawn.

10 Claims 9 and 15-20 stand rejected under 35 U.S.C. §101 because they
11 define a computing system embodying functional descriptive material but do not
12 define a computer-readable medium or memory.

13 Applicant respectfully disagrees with the Office's rejection. Nevertheless,
14 in the interest of advancing the prosecution of this matter, Applicant has amended
15 claims 9 and 15. Applicant further asserts that the rejections against claims 16-20,
16 which depend directly or indirectly from claim 15, have been addressed by virtue
17 of the amendment to claim 15. Accordingly, Applicant respectfully requests that
18 these rejections be withdrawn.

19
20 **§ 103 Rejections**

21 Claims 1-20 stand rejected under U.S.C. §103(a) as being unpatentable
22 over U.S. Patent No. 6,639,943 to Radha et al. (hereinafter "Radha") in view of
23 U.S. Patent No. 6,731,811 to Rose (hereinafter "Rose") and further in view of U.S.
24 Patent No. 5,754,233 to Takashima (hereinafter "Takashima").
25

The Claims

Claim 1 recites a method of processing media content, the method comprising:

- generating a motion compensated prediction of a region of media content;
- receiving an indication of whether there are first and second quantities of residual samples remaining for refining the prediction, on a per-region basis, wherein the indication comprises one or more values associated with one or more picture-level parameters; and
- adding of the first quantity of residual samples to the prediction to generate a refined prediction value, when so indicated; and
- subtracting the second quantity of residual samples from the refined prediction value to generate a final representation, when so indicated.

In making out the rejection of this claim, the Office argues that Radha discloses all of the subject matter of this claim except for “subtracting the second quantity of residual samples” and “wherein the indication comprises one or more values associated with one or more picture-level parameters”. For these features, the Office relies on Rose and Takashima respectively. The Office argues that the motivation to combine the teachings of these references would be to “obtain an apparatus that operates more efficiently by being able to take advantage of addition information given to a system.”

Applicant respectfully traverses this rejection and submits that the Office has not established a *prima facie* case of obviousness. First, as Applicant explained in its previous response (filed October 19, 2006), Radha does not disclose “receiving an *indication ... on a per-region basis*”. (emphasis added). Specifically, the Office relies on the movement of an apparatus (which is not identified or specified by the Office) between layers as being equivalent to an

1 “indication”, as claimed. However, the act itself of moving “from one layer to the
2 next” in Radha cannot be equated with “receiving an indication”, as claimed –
3 especially when considering the language recites “adding...and
4 subtracting...*when so indicated*” and “wherein the indication comprises one or
5 more values...”, as claimed. (emphasis added). In addition, Nothing in Radha
6 indicates “*on a per-region basis*”, as claimed. (emphasis added). Furthermore,
7 contrary to the Office’s argument, there is no distinction between a first and
8 second quantity of residual samples in Radha. (see Radha, Figs 5A and 8A).

9 In responding to these arguments, the Office argues “...the examiner relied
10 upon Radha to generally show the indication. However, the examiner relied upon
11 Takashima to disclose the specifics of the indication as claimed.” (see Office
12 Action, Page 2). This response, however, neglects the fact that the Office equates
13 the enhancement and base layers in Radha as “...first and second quantities of
14 residual samples...” as claimed. (See Office Action, Page 6, which states:
15 “...wherein the residual samples are contained with the enhancement and base
16 layers”, Office Action, Page 6). It also neglects the fact that the Office relies on
17 the process of moving between these layers to show “an indication” as claimed
18 (“to generally show per the Office”). (See Office Action, Page 6, which states:
19 “...the indication is the process from moving from one layer to the next.”).
20 Accordingly, regardless of the specifics of the indication in Takashima, the act
21 itself of moving “from one layer to the next” in Radha cannot be equated with
22 “receiving an indication”, as claimed and Radha simply makes no distinction
23 between a first and second quantity of residual samples.

24 In addition, since Radha does not distinguish between a first and second
25 quantity of residual samples, it cannot possibly disclose “adding of the first

1 quantity of residual samples”, as claimed. Accordingly, it is not surprising that the
2 Office is unable to identify “a refined prediction value”, as claimed in Radha.

3 Second, as Applicant explained in its previous response, the Office’s
4 reliance on Takashima as disclosing “one or more values associated with one or
5 more picture-level parameters” is misplaced because, even if the act of moving
6 “from one layer to the next” in Radha could be equated with “an indication”,
7 which it cannot, the act itself of moving cannot comprise values - at least in the
8 context of Radha and this claim. This is because the *act of moving* and the
9 characteristic of *comprising one or more values* are incongruous.

10 Third, Fig. 5 of Rose does not disclose “subtracting the second quantity of
11 residual samples from the refined prediction value *to generate a final*
12 *representation*”, as claimed. (emphasis added). Instead, Fig. 5 shows subtracting
13 predicted frames in the base layer and first and second enhancement layers to
14 obtain respective prediction errors (see Rose, Column 6, lines 10-20).

15 In responding to these arguments, the Office argues that Column 6 (lines
16 11-35) discloses “performing a subtraction to produce a residual value. The
17 residual value is then fed to the reconstruction module and used to produce a final
18 output.” Applicant disagrees with the Office’s characterization of this excerpt.
19 Specifically, Applicant is unable to find any mention of a “refined prediction
20 value”, as claimed. As such, this excerpt cannot possibly disclose “subtracting
21 ...from the refined prediction value” as claimed. Furthermore, as noted above,
22 this excerpt simply doesn’t disclose “...to generate a final representation.”
23 Instead, it describes obtaining a prediction error(s) (or residual(s)) in the context of
24 obtaining a predictive encoder.
25

1 Fourth, as Applicant has explained in its previous responses, the Office's
2 stated motivation (to improve efficiency) is too general because it could cover
3 almost any alteration contemplated of Radha and does not address *why* this
4 specific proposed modification would have been obvious. Furthermore, with
5 respect to the modification proposed by the Office, even if the act of moving in
6 Radha could be modified to "comprise one or more values..." as claimed, which it
7 cannot, such an effect would simply have no effect on Radha in regard to
8 operating "more efficiently". For instance, such a modification would not enable
9 Radha "to take advantage of additional information given to a system without
10 causing undesired conflicts/complexity", as the Office suggests. In fact, as far as
11 Applicant can tell, such a modification would have no effect on Radha's operation
12 at all. Accordingly, in addition to being too general, the Office's stated motivation
13 is simply not relevant to the proposed combination of Radha and Takashima.

14 In view of the above discussion, the Office has not established a *prima*
15 *facie* case of obviousness. Hence, for at least this reason, this claim is allowable.

16 Claims 2-9 depend from claim 1 and are allowable as depending from an
17 allowable base claim. These claims are also allowable for their own recited
18 features which, in combination with those recited in claim 1, are neither disclosed
19 nor suggested in the references of record, either singly or in combination with one
20 another.

21 Additionally, regarding claims 4 and 7, Applicant respectfully submits that
22 the Office's reliance on what the region of content in Radha "could comprise" is
23 misplaced because to establish a *prima facie* case of obviousness, the prior art
24 reference (or references when combined) must teach or suggest all the claim
25 limitations. (*In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)).

1 Furthermore, the Office has not provided any motivation as to *why* an artisan
2 would have utilized a macroblock with respect to the region of content.

3 In responding to these arguments, the Office argues “[t]he common
4 knowledge or well-known in the art statement with regards to claims 4, 7, 12 and
5 18 is taken to be admitted prior art because applicant failed to traverse the
6 examiner’s assertion of Official Notice.” Applicant disagrees and respectfully
7 submits that regardless of whether or not macroblocks are well known, the
8 Office’s reliance on what the region of content in Radha “could comprise” is not
9 relevant. Instead, the cited reference (or references when combined) must teach or
10 suggest *all the claim limitations*. (emphasis added).

11 In addition, and as an aside, the Office’s assertion that macroblocks are
12 well known in the MPEG environment is not appropriate because this fact is
13 not “capable of instant and unquestionable demonstration as being well-known.”
14 (see MPEP 2144.03). Applicant respectfully reminds the Office that “assertions of
15 technical facts in the areas of esoteric technology or specific knowledge of the
16 prior art must *always* be supported by citation to some reference work recognized
17 as standard in the pertinent art.” (*In re Ahlert*, 424 F.2d at 1091, 165 USPQ at 420-
18 21, see also MPEP 2144.03) (emphasis added). Accordingly, Applicant
19 respectfully requests that /documentary evidence, pursuant to MPEP 2144.03 and
20 37 CFR 1.104(c)(2), be supplied to support the Office’s official assertion.

21 Claim 10, as amended (added language in bold italics), recites *one or more*
22 *computer-readable storage media having computer-readable instructions stored*
23 *thereon which, when executed by a computer*, implement a decoder of media
24 content to generate a motion compensated prediction of at least a region of media
25 content, to receive an indication of one or more sets of samples of residual

1 information to further refine the prediction, wherein the indication comprises one
2 or more values associated with one or more picture-level parameters, and to add a
3 first set of such samples to the prediction to generate a modified prediction, if
4 indicated, and to subtract a second set of such samples from the modified
5 prediction to generate a final motion compensated prediction of the region, if
6 indicated.

7
8 In making out the rejection of this claim, the Office relies on the same
9 argument that it made with respect to claim 1. Therefore, for the reasons set forth
10 above, applicant respectfully traverses this rejection.

11 Accordingly, in view of the above discussion, the Office has not established
12 a *prima facie* case of obviousness. Hence, for at least this reason, this claim is
13 allowable.

14 Claims 11-14 depend from claim 10 and are allowable as depending from
15 an allowable base claim. These claims are also allowable for their own recited
16 features which, in combination with those recited in claim 10, are neither disclosed
17 nor suggested in the references of record, either singly or in combination with one
18 another.

19 Additionally, regarding claim 12, Applicant respectfully submits that the
20 Office's reliance on what the region of content in Radha "could comprise" is
21 misplaced. Furthermore, the Office has not provided any motivation as to *why* an
22 artisan would have utilized a macroblock with respect to the region of content.

23 As noted above, in responding to these arguments, the Office argues "[t]he
24 common knowledge or well-known in the art statement with regards to claims 4,
25 7, 12 and 18 is taken to be admitted prior art because applicant failed to traverse

1 the examiner's assertion of Official Notice." Applicant disagrees and respectfully
2 submits that regardless of whether or not macroblocks are well known, the
3 Office's reliance on what the region of content in Radha "could comprise" is not
4 relevant. Furthermore, Applicant respectfully requests that /documentary
5 evidence, pursuant to MPEP 2144.03 and 37 CFR 1.104(c)(2), be supplied to
6 support the Office's official assertion.

7
8 **Claim 15**, as amended (added language in bold italics), recites a system
9 *implemented at least in part on a computing device*, comprising:

- 10 • a decoder application to receive a region of media content and
11 control generation of decoded media content; and
- 12 • an application program interface (API), communicatively coupling
13 the decoder application with a hardware accelerator, wherein if the
14 API receives an indication of one or more sets of residual samples,
15 the first set of samples is added to a motion compensated prediction
16 to generate a refinement of a prediction value, when so indicated,
17 and a second set of samples is subtracted from the refined prediction
18 value to generate a final representation, when so indicated.

19 In making out the rejection of this claim, the Office relies on the same
20 argument that it made with respect to claims 1 and 15. In addition, the Office
21 argues that Fig. 10 (blocks 52 and 54) of Radha discloses a hardware accelerator
22 and Column 9 (lines 57-59) discloses an application program interface (API), as
23 claimed.

24 Applicant traverses this rejection and respectfully submits that for all of the
25 reasons set forth above, the Office has failed to establish a *prima facie* case of
obviousness. In addition, Column 9 (lines 57-59) of Radha simply does not

1 disclose an “application program interface (API), communicatively coupling the
2 decoder application with a hardware accelerator”, as claimed. This is not
3 surprising because blocks 52 and 54, depicted in Fig. 10, do not disclose or
4 suggest a “hardware accelerator”, as claimed. Furthermore, even if these blocks
5 did disclose a “hardware accelerator”, which they do not, they are actually part of
6 the decoder itself. (see Fig. 10 and column 9, lines 64-67 through column 10,
7 lines 1-7).

8 In responding to these arguments, the Office refers to Fig. 10 in Radha and
9 argues “...Radha illustrates the accelerator or motion compensation and inverse
10 DCT blocks.” Applicant respectfully disagrees and submits that item 46 in Fig. 10
11 of Radha illustrates a decoder with a base layer decoder 46. Furthermore,
12 Applicant submits that the Office has not addressed Applicant’s full argument.

13 Accordingly, in view of the above discussion, the Office has not established
14 a *prima facie* case of obviousness. Hence, for at least this reason, this claim is
15 allowable.

16 Claims 16-20 depend from claim 15 and are allowable as depending from
17 an allowable base claim. These claims are also allowable for their own recited
18 features which, in combination with those recited in claim 15, are neither disclosed
19 nor suggested in the references of record, either singly or in combination with one
20 another.

21 Additionally, regarding claim 18, Applicant respectfully submits that the
22 Office’s reliance on what the region of content in Radha “could comprise” is
23 misplaced. Furthermore, the Office has not provided any motivation as to *why* an
24 artisan would have utilized a macroblock with respect to the region of content.
25

1 As noted above, in responding to these arguments, the Office argues "[t]he
2 common knowledge or well-known in the art statement with regards to claims 4,
3 7, 12 and 18 is taken to be admitted prior art because applicant failed to traverse
4 the examiner's assertion of Official Notice." Applicant disagrees and respectfully
5 submits that regardless of whether or not macroblocks are well known, the
6 Office's reliance on what the region of content in Radha "could comprise" is not
7 relevant. Furthermore, Applicant respectfully requests that /documentary
8 evidence, pursuant to MPEP 2144.03 and 37 CFR 1.104(c)(2), be supplied to
9 support the Office's official assertion.

10
11 **Conclusion**

12 All of the claims are in condition for allowance. Accordingly, Applicant
13 requests a Notice of Allowability be issued forthwith. If the Office's next
14 anticipated action is to be anything other than issuance of a Notice of Allowability,
15 Applicant respectfully requests a telephone call for the purpose of scheduling an
16 interview.

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20 Respectfully Submitted,

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22 Dated: 4/6/2007

23 By: 

24 John Richard Bucher
25 Reg. No. 57,971
(509) 324-9256 ext. 216